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RAW SEQUENCE LISTING

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DATE: 02/06/2002

PATENT APPLICATION: US/09/843,676

TIME: 15:48:38

Input Set : N:\Crf3\RULE60\09843676.raw Output Set: N:\CRF3\02062002\1843676.raw

## SEQUENCE LISTING

(1) GENERAL INFORMATION:

```
5
             (i) APPLICANT: Cech, Thomas R.
      6
                            Lingner, Joachim
      7
                             Nakamura, Toru
                                                              ENTERED
      8
                             Chapman, Karen B.
      9
                            Morin, Gregg B.
     10
                             Harley, Calvin
     11
                            Andrews, William H.
            (ii) TITLE OF INVENTION: Novel Telomerase
     13
     15
           (iii) NUMBER OF SEQUENCES: 225
     17
            (iv) CORRESPONDENCE ADDRESS:
     18
                  (A) ADDRESSEE: Townsend and Townsend and Crew LLP
                  (B) STREET: Two Embarcadero Center, 8th Floor
     19
     20
                  (C) CITY: San Francisco
     21
                  (D) STATE: California
     22
                  (E) COUNTRY: United States of America
     23
                  (F) ZIP: 94111
     25
             (V) COMPUTER READABLE FORM:
     26
                  (A) MEDIUM TYPE: Floppy disk
     27
                  (B) COMPUTER: IBM PC compatible
                  (C) OPERATING SYSTEM: PC-DOS/MS-DOS
     28
                  (D) SOFTWARE: PatentIn Release #1.0, Version #1.30
     29
            (vi) CURRENT APPLICATION DATA:
     31
                  (A) APPLICATION NUMBER: US/09/843,676
C--> 32
                  (B) FILING DATE: 26-Apr-2001
C--> 33
     54
                  (C) CLASSIFICATION: 536
     51
           (vii) PRIOR APPLICATION DATA:
                  (A) APPLICATION NUMBER: US/08/854,050
     37
     38
                  (B) FILING DATE: 09-MAY-1997
     42
                  (A) APPLICATION NUMBER: US 08/846;017
     43
                  (B) FILING DATE: 25-APR-1997
                  (A) APPLICATION NUMBER: US 08/844,419
     47
                  (B) FILING DATE: 18-APR-1997
     48
     52
                  (A) APPLICATION NUMBER: US 08/724,643
     53
                  (B) FILING DATE: 01-OCT-1996
     56
          (viii) ATTORNEY/AGENT INFORMATION:
     57
                  (A) NAME: Apple, Randolph T.
     58 -
                  (B) REGISTRATION NUMBER: 36,429
                  (C) REFERENCE/DOCKET NUMBER: 015389-002930US
     59
     61
            (ix) TELECOMMUNICATION INFORMATION:
                  (A) TELEPHONE: (415) 576-0200
     62
                  (B) TELEFAX: (415) 576-0300
     63
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RAW SEQUENCE LISTING

DATE: 02/06/2002 PATENT APPLICATION: US/09/843,676 TIME: 15:48:38

				•										
65	(2) INFORMAT	TION FOR SE	Q ID NO: 1:											
67	7 (i) SEQUENCE CHARACTERISTICS:													
68	(A) LENGTH: 3279 base pairs													
69	to the contract of the contrac													
70	0 (C) STRANDEDNESS: single													
71	1 (D) TOPOLOGY: linear													
73	3 (ii) MOLECULE TYPE: other nucleic acid													
74	• •		ION: /desc											
76	•	•	· · · · · · · · · · · · · · · · · · ·	Q ID NO: 1:										
78	AAAACCCCAA A					AACCTCAGTA	. 60							
	TTAATAAGCT · C						120							
	TCAAGCTGAT A						180							
	TAAAACGTTG T						240							
	TTATAAAGAT T						300							
	AGACTATAAT G						360							
	AATGATCGAA C						420							
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	GCGAACTTCT G						660							
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	CAACGTGCCG TAATAGAAAT						900							
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156	ATTTTATTAT	GCAACATTAG	AGGAAAGCTC	CTTAGGATTC	CTTAGAGATG	AATCAATGAA	2400							

**RAW SEQUENCE LISTING**PATENT APPLICATION: **US/09/843,676**DATE: 02/06/2002

TIME: 15:48:38

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  166 GATTGGCATC TCAATTGATA TGAAAACTCT TGCTTTAATG CCAAATATTA ACTTGAGAAT
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                 (B) TYPE: amino acid
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                (D) TOPOLOGY: Not Relevant
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  206
            Trp Ile Gln Lys Val Ile Arg Cys Arg Asn Gln Ser Gln Ser His Tyr
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                                                    75
  215
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  218
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                        100
  221
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239 240	Cys	Ser 210	Thr	Cys	Lys	Tyr	Asn 215	Val	Lys	Asn	Glu	Lys 220	Asp	His	Phe	Leu
240	λan		Tlo	λαη	V = 1	Dro		Фrn	λen	λen	Mot		Ser	Δτα	Thr	Δrα
242	225	ASII	TTE	ASII	vaı	230	NOII	тър	ASII	LSII	235	БуЗ	JCI	пту	1111	240
245		Dhe	Tyr	Cvs	Thr		Phe	Asn	Ara	Asn	_	Gln	Phe	Phe	Lvs	
246	110	rne	111	Cys	245	1113	1 110	7.511	1119	250	11.511	01	1	1	255	<b>D</b> 10
248	His	Glu	Phe	۷al		Agn	Lvs	Asn	Asn		Ser	Ala	Met	Asp		Ala
249	11.10	014	1 110	260	001		-1-		265					270	5	
251	Gln	Thr	Ile		Thr	Asn	Ile	Phe		Phe	Asn	Ara	Ile	Arq	Lvs	Lys
252			275					280	,			,	285	-	-	
254	Leu	Lys	Asp	Lys	Val	Ile	Glu	Lys	Ile	Ala	Tyr	Met	Leu	Glu	Lys	Val
255		290	-	-			295	_			_	300			_	
257	Lys	Asp	Phe	Asn	Phe	Asn	Tyr	Tyr	Leu	Thr	Lys	Ser	Cys	Pro	Leu	Pro
258	305					310					315					320
260	Glu	Asn	Trp	Arg	Glu	Arg	Lys	Gln	Lys	Ile	Glu	Asn	Leu	Ile	Asn	Lys
261					325					330					335	
263	Thr	Arg	Glu	Glu	Lys	Ser	Lys	Tyr	Tyr	Glu	Glu	Leu	Phe	Ser	Tyr	Thr
264			٠.	340					345					350		
266	Thr	Asp	Asn	Lys	Cys	Val	Thr		Phe	Ile	Asn	Glu	Phe	Phe	Tyr	Asn
267			355					360					365	•	_	
269	Ile		Pro	Lys	Asp	Phe		Thr	Gly	Arg	Asn		Lys	Asn	Phe	Gln
270		370	_				375				_	380		_		
2.72	_	Lys	Val	Lys	Lys	_	Val	GLu	Leu	Asn		His	Glu	Leu	IIe	
273	385	_	_	_	_	390	_	-1.		m1	395	<b>a</b> 1	<b>-1</b> -	<b>a</b>	m	400
275	Lys	Asn	Leu	Leu		Glu	гàг	тте	Asn		Arg	GIU	Ile	ser		met
276	Q1	17a l	<b>a</b> 1	mh	405	71.	T a	1114.0	Dha	410	m	Dho	7 an	II i o	415	λαη
278	GIII	vaı	GIU	420	ser	Ald	ьуѕ	HIS	425	TAT	туг	Pne	Asp	лтS 430	GIU	ASII
279 281	т1а	M	175.1		m xx	Two	Lou	T OU		Trn	T10	Dho	Glu		Lou	17a l
282	116	тут	435	Leu	TIP.	гуѕ	ьеи	440	AIG	тър	116	FIIC	445	ASP	пеп	Val
284	Va 1	Sar		Tlo		Cve	Dhe		Туг	Val	Thr	Glu	Gln	Gln	Lvs	Ser
285	Val	450	пец	+10.	пта	Cys	455	1110	- 1 -	, u i	1111.	460	0111	0111		DCI
287	Tvr		Lvs	Thr	Tvr	Tvr		Ara	Lvs	Asn	Ile		Asp	Val	Ile	Met
288	465	001			-1-	470	-1-	5	-1-	1.5	475					480
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291	-1-				485	•		-	-	490					495	
293	Glu	Lys	Glu	Val	Glu	Glu	Trp	Lys	Lys	Ser	Leu	Gly	Phe	Ala	Pro	Gly
294		•		500			_	_	505			_		510		
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297			515					520					525			
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300		530					535					540				
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303 .	545					550	•				555					560
305	Asn	Arg	Met	Phe	_	Asp	Pro	Phe	Gly		Ala	Val	Phe	Asn		Asp
306					565					570		_	_	_	575	
308	Asp	Val	Met		Lys					Val	Cys	Lys	Trp		Gln	Val
309		~ 3	_	580	_	- : - :			585			2	<b>a</b> 1	590	0-	m
311	GТУ	Gln	Pro	гàг	Leu	Pne	Phe	Ala	Thr	Met	Asp	тте	Glu	ràs	cys	туr

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312			595					600					605			
314	Asp	Ser	Val	Asn	Arq	Glu	Lys	Leu	Ser	Thr	Phe	Leu	Lys	Thr	Thr	Lys
315	-	610					615					620	-			_
317	Leu	Leu	Ser	Ser	Asp	Phe	Trp	Ile	Met	Thr	Ala	Gln	Ile	Leu	Lys	Arg
318	625				_	630	_				635					640
320	Lys	Asn	Asn	Ile	Val	Ile	Asp	Ser	Lys	Asn	Phe	Arg	Lys	Lys	Glu	Met
321					645					650					655	
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324				660					665					.670		
326	Gln	Tyr	Pro	Thr	Leu	Phe	Ser	Val	Leu	Glu	Asn	Glu	Gln	Asn	Asp	Leu
.327			675					680					685			
329	Asn	Ala	Lys	Lys	Thr	Leu	Ile	Val	Glu	Aļa	Lys	Gln	Arg	Asn	Tyr	Phe
330	•	690					695					700				
332	Lys	Lys	Asp	Asn	Leu	Leu	Gln	Pro	۷al	Ile	Asn	Ile	Cys	Gln	Tyr	Asn
333	705					710					715					720
335	${ t Tyr}$	Ile	Asn	Phe	Asn	Gly	Lys	Phe	Tyr		Gln	Thr	Lys	Gly		Pro
336					725					730		·			735	
338	Gln	Gly	Leu	_	Val	Ser	Ser	Ile		Ser	Ser	Phe			Ala	Thr
339				740					745		,	_		750	•	
341	Leu	Glu		Ser	Ser	Leu	Gly		Leu	Arg	Asp	Glu		Met	Asn	Pro
342			755		_			760		_	_		765	_		_
344	Glu		Pro	Asn	Val	Asn		Leu	Met	Arg	Leu		Asp	Asp	Tyr	Leu
345	_	770	_,	_,		- 1	775	_		1		780	1	<b>a</b> 1	-	
347		тте	Thr	Inr	GIn		Asn	Asn	Ата	vaı		Pne	шe	GIU	гàг	Leu
348	785	3	17. 7	<b></b>	3	790	1 ~~		nh e	T	795	3	Wat	T 0	T ***	800
350	ire	ASII	vaı	ser	_	GIU	ASI	СТА	Pne	810	Pne	ASII	мес	гуѕ	Lys 815	Leu
351	C1 n	mh∽	Com	Dho	805	Lou	Cor	Dro	Cor		Dho	ת 1 ת	Tvc	Фттх	-	Mot
353 354	GIII	1111	Ser	820	PIU	цец	261	PIO	825	пуз	FILE	Ala		830	СТУ	Met
356	λen	Cor	Va 1		Glu.	Gln	Δen	τlο		Gln	Aen	Тυг		•	Trn	Ile
357	АБР	Ser	835	Gru	GIU	GIII	NSII	840	Vai	GIII	изр	171	845		115	110
359 ··	Glv	Tle		Tle	Asn	Met	Lvs	-	Len	Ala	Len	Met			Ile	Asn
360	011	850	501				855					860				
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363	865	5			1	870		-1-			875					880
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366		4			885	-		•	*	890		•			895	
368	Asn	Asn	Ile	Thr	His	Tyr	Phe	Arg	Lys	Thr	Ile	Thr	Thr	Glu	Asp	Phe
369				900		•			905					910	-	
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374	Met	Gln	Cys	Ala	Lys	Glu	Tyr	Lys	Asp	His	Phe	Lys	Lys	Asn	Leu	Ala
375		930					935					940				
377	Met	Ser	Ser	Met	Iļe	Asp	Leu	Glu	Val	Ser	Lys	Ile	Ile	Tyr	Ser	Val
378	945					950					955	•				960
380	Thr	Arg	Ala	Phe		Lys	$\mathtt{Tyr}$	Leu	Val		Asn	Ile	Lys	Asp	Thr	Ile
381					965:					970					975	
383	Phe	Gly	Ģlu		His	$\mathtt{Tyr}$	Pro	Asp		Phe	Leu	Ser	Thr		Lys	His
384				980					985					990		

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/843,676

DATE: 02/06/2002

TIME: 15:48:39

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L:32 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:33 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]
L:194 M:246 W: Invalid value of Alpha Sequence Header Field, [TOPOLOGY:], SeqNo=2
L:474 M:246 W: Invalid value of Alpha Sequence Header Field, [TOPOLOGY:], SeqNo=4
L:591 M:246 W: Invalid value of Alpha Sequence Header Field, [TOPOLOGY:], SeqNo=5
L:710 M:246 W: Invalid value of Alpha Sequence Header Field, [TOPOLOGY:], SeqNo=6
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L:3838 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:73
L:3849 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=74
L:3877 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:75
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L:4510 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=95
L:4526 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=96
L:4542 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=97
L:4558 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=98
L:4574 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=99
L:4717 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:101
L:4815 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=102
L:4831 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=103
L:4846 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=104
L:6621 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:174
L:6624 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:174
L:6627 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:174
L:6630 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:174
L:6639 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:174
L:6642 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:174
                                                                                             .
L:6645 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:174 L:6648 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:174
L:6706 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:176
L:6725 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:177
L:6728 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:177
L:6924 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:185
L:7297 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:202
L:7300 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:202
L:7303 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:202
L:7315 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:202
L:7318 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:202
L:7324 \text{ M}:341 \text{ W}: (46) \text{ "n" or "Xaa" used, for SEQ ID$#:202}
L:7365 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:203
L:7368 \ M:341 \ W: (46) \ "n" \ or "Xaa" \ used, for SEQ ID#:203
L:7490 \ M:341 \ W: \ (46) \ "n" \ or "Xaa" \ used, for SEQ ID#:206
L:7743 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:215
L:7746 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:215
L:7763 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:216
L:7766 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:216
L:7791 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:217
L:7794 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:217
L:7797 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:217
L:7800 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:217
L:7827 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:217
L:7830 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:217
L\!:\!7833 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:217
L:7908 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:217
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